

Organized plant health clinics in Asia

Food security implies availability of adequate food to everyone in all times to come. The Food and Agriculture Organization (FAO) of the United Nations¹ defines 'food security' as a state of affairs where all people at all times have access to safe and nutritious food to maintain healthy and active life. Food security has become a matter of serious concern in Asia, where ever-growing population has become a phenomenon. In view of the unabated rise in population, India is likely to exceed the population of China by 2028. Villages closer to cities are losing their agrarian identity and are getting urbanized, resulting in gradual reduction in arable land. Over 100 villages in Gurgaon have been transformed into concrete jungle with residential buildings, where once farming was in vogue. To feed the ever-growing population, we have to double the production to meet the food requirements of the people, by adopting innovative technology, which is not an easy task as arable land is shrinking. Further, all our efforts get jeopardized due to unprecedented threat by a large number of insect-pests, diseases, weeds and several environmental stresses, causing approximately 40% reduction in yield worldwide, primarily due to want of timely diagnosis and advisory support. Saving even 1% loss can feed the millions².

Plant clinics are all about plant health and the major role of plant clinic lies in diagnosis and advisory. Plant clinics are operating in many nations, but organized clinics are lacking in most of the Asian countries, except India. Under Centre for Agricultural Biosciences International (CABI)'s Global Plant Clinic Programme (now Plantwise initiative since 2010)³, walk-in-clinics or community-based plant clinics, lacking physical identity and infrastructure are operating in public/market places, and farmers normally are not aware when and where the next clinic will be held until announced. The situation therefore warrants setting up well-organized plant clinics to provide timely diagnosis of a wide range of ailments and their remedies to reduce losses, increase crop productivity and boost food security of the ever-growing population⁴⁻⁶.

Farmers could get right diagnostic and mitigatory advice in time if the Asian nations create well-developed, multispecialty, farmer-centric clinics on the lines of human clinics in rural areas like primary health centres. The clinics should have better physical infrastructure, world-class diagnostic facility with well-qualified and experienced pathologists, edaphologist, entomologist and agronomist under one roof along with other facilities like agro-input counter, library, cafe and toilet. The clinics need to provide services free of cost on plant health and ailments and innovations to achieve higher productivity. The role of a diagnostician is not only diagnosing the problem through visual/microscopic examination or sero-diagnostic technique, but to provide need-based mitigatory prescription, with greater reliance on integrated holistic approach which is environment-friendly, with least impact on biodiversity and is also easily affordable. It is also important to organize plant health camps, monitor pest scenario, issue pest alert and maintain vigil on pest incursion, and empower farmers with knowledge to tackle pests. During epiphytotic outbreak 'clinic on wheels' must help the farmers in rendering on-the-spot advice to arrest flaring-up of the problem^{5,6}.

Communication with growers needs to be invigorated through print and electronic devices, toll-free telephony, e-mails and SMSs. Even on-line diagnosis and advisory can be provided as is given in India by XSGrowth Plant Health Clinic⁷ – a non-profit organization (<http://www.xsgrowth.com>). Plantwise too provides advice on demand to small holders³. Knowledge is crucial to manage plant diseases and ensure sustainability. Therefore, farmers need to be empowered with latest know-how of managing plant diseases through IPM and 4G fungicides having least impact on biodiversity, using traditional tools of extension and information technology. Besides, maintaining the database, networking⁸, impact analysis and interactions with research, government and pesticide dealers for optimizing techno-resources⁹ are also necessary. The important role of classical innovative

publications – Plant Disease Warning and Plant Pathology Courier in keeping pests at bay also cannot be ignored^{5,6}.

In order to provide timely diagnosis for a wide range of ailments and providing remedial measures to prevent huge losses due to the wide range of pests, Asian nations must set up organized plant clinics, thus empowering farmers to improve food security⁶.

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